In the Specification:

Replace paragraph 0002 of the specification with the following paragraph:

The present invention relates to a method for the orientation of a spindle of a numerically controlled and rapidly rotating spindle, by which the spindle is brought from an initial rotational speed into a predetermined position of rest in that in a first phase the spindle is braked at a first braking rate function to a threshold rotational speed and in a second phase the defined position of rest is controlled by position regulation. The present invention further relates to a numerical control device of a machine tool embodied for the method of the present invention.

Replace paragraph 0015 of the specification with the following paragraph:

The braking process in the first phase is performed particularly advantageously in that a maximum current and therefore a maximum torque is used for braking. In this case this torque can be greater than a torque permitted during normal operations would be, since such braking processes only occur once in a while and over short periods of time, so that an overload of the spindle drive mechanism need not be feared. For example, it is possible for braking the spindle at a first braking rate function so as to preset a nominal rotational speed of zero and to limit the current generated by a current regulator (which is proportional to the braking torque via the motor constant) only by a monitoring unit which monitors the temperature of the electronic drive unit and/or the spindle drive. In this way it is possible to prevent an overload of the spindle drive, but still to brake with maximum current. Because of this the first phase becomes as short as possible.

Replace paragraph 0027 of the specification with the following paragraph:

Therefore the first threshold rotational speed Ng1 should be selected to be lower than the rotational speed which can just be controlled by the position controller 2, since in accordance with the described method a switching over is made from rotational speed regulation (speed controller) to position regulation (position controller) when this first threshold rotational speed Ng1 is reached.

Replace paragraph 0028 of the specification with the following paragraph:

With the method described, deceleration or braking at a maximum torque and a first braking rate function is performed by rotational speed regulation in a first phase P1, which lies between the initial time Ts and the time T1 at which the first threshold rotational speed Ng1 has been reached. There is no sense in applying the described method if the initial rotational speed Ns lies only a little above the first threshold rotational speed Ng1, since a switching over, which is continuous in regard to the position and/or rotational speed, is prepared in a first step A still in the first phase P1. This preparation requires a certain amount of time, which would not be available if the initial rotational speed Ns lies too closely above the first threshold rotational speed Ng1. Therefore, the method is preferably started in a step A only if the initial rotational speed Ns also lies above a second threshold rotational speed Ng2. Otherwise customary methods will be employed for the spindle orientation.

Replace paragraph 0032 of the specification with the following paragraph:

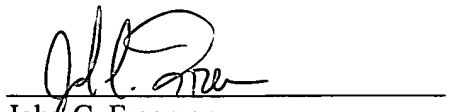
Therefore the second threshold rotational speed Ng2 must be selected such that the first phase P1 allows sufficient time for the necessary preparations for the switching over, which is continuous in regard to the position and/or rotational speed, from rotational speed regulation to

position regulation in step B. Moreover, the first phase P1 should last at least long enough so that the spindle [[6.1]] 6.2 reaches the maximum deceleration.

Replace paragraph 0036 of the specification with the following paragraph:

In the second phase P2 (step C in FIG. 3) a second braking rate function is applied to the spindle 6.2 which is different than the first braking rate function as shown in FIG. 2. In the second phase, a movement profile is now calculated by the numerical control device 1, by which the nominal position values x_nominal can be issued to the position controller 2. A marginal condition for this movement profile is in every case the starting point of the movement, i.e. the position of the spindle at the start of the second phase P2 (time T1) and, with a switching over which is continuous in regard to the rotational speed, in step B also the rotational speed Ng1 at the time T1, as well as the defined position of rest of the spindle at the final time Te and the final rotational speed zero. It is optionally possible to parameterize a maximum jerk which, toward the end of the second phase P2, or also during the entire phase P2, limits the maximum jerk, or the maximum change of acceleration. Taking all marginal conditions into account, it is possible to calculate a movement profile which terminates the second phase P2 in the shortest possible time.

Respectfully submitted,



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